a) Claim Rejection Based On 35 U.S.C. § 112

The rejection of Claims 1-15, 17-22 and 24-43 under 35 U.S.C. § 112, first paragraph as being nonenabling with respect to fluid intake rates of about 0.5 cubic centimeters or greater, is respectfully traversed.

First, the Examiner has mischaracterized Applicants' specification as describing a fluid intake rate of "up to 5 cc/sec" (Office Action, p. 5). Nowhere does Applicants' specification state that 5 cm^3/sec is an upper limit. Contrary to the Examiner's representation, the specification (p. 10 lines 4-10) states only that a fluid intake of about 5 cc/sec is a lower limit in one embodiment:

> The surface of the absorbent structure 20 that faces a user or is expected to be in contact with liquid during use should have the ability to allow liquid to penetrate through the surface at a relatively rapid rate. Thus, the absorbent structure 20 suitably has a fluid intake rate of about 0.5 cubic centimeters per second (cc/s) or greater, or about 1 cc/s or greater, or about 2 cc/s or greater, or about 5 cc/s or greater. The fluid intake rate can be measured using the Fluid Intake Rate Test described in detail below.

For purposes of the invention, only the lower limit of fluid intake rate is important because it defines a minimum efficiency for the claimed absorbent structure. No upper limit has been disclosed or claimed because, for purposes of the invention, an upper limit is not important. Applicants have no reason to define an upper limit because to do so would only limit the efficiency of the absorbent article. Applicants agree that if an upper limit were claimed, then there would be a duty to support it. However, Applicants have no duty to support any limitation that is not stated in the claims. The Examiner has cited no case law that holds to the contrary, and Applicants' attorney is aware of none.

Applicants' independent Claims 1, 17, 30 and 41-43 are written using the transition word "comprising." This means that the independent claims are open-ended, and cover absorbent structures which embody the claim limitations alone or combined with additional ingredients and parameters that are not recited in the claims. This is true whether or not the additional, unrecited ingredients and parameters are stated in the specification. There is no duty to enable any and all unrecited ingredients and parameters that are within the scope of an open-ended claim. The Examiner has cited no case law that holds to the contrary, and Applicants' attorney is aware of none.

Presumably, if Applicants simply deleted the "fluid intake rate" language from the independent claims (or failed to recite it in the first place), the enablement rejection would be avoided. However, claims which recite no fluid intake rate at all would necessarily cover absorbent structures having fluid intake rates ranging from very low to very high, with no upper limit. No upper limit would have been stated in the specification or claims, yet there would have been no basis for an enablement rejection.

Instead of leaving the claims open to fluid intake rates ranging from very low to very high levels, Applicants have chosen to restrict the range by stating only a lower limit. The fact that Applicants have stated no upper limit provides no more rationale for an enablement rejection than if a fluid intake rate had not been stated at all. Whether a fluid intake rate is not stated at all, or whether only a lower limit is stated, there is no defined upper limit.

Persons of ordinary skill in the art would understand this, and would have no difficulty making the invention as claimed. This rejection should be withdrawn.

b) Claim Rejection Based On Gertzman et al.

The rejection of Claims 1, 3, 7-8, 10-15, 21 and 41 under 35 U.S.C. § 102(b) as anticipated by, or under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,460,621 ("Gertzman et al.") is respectfully traversed.

At the outset, the Examiner has disregarded one of the most fundamental tenets of patent law, that claim limitations are to be interpreted according to the meaning provided in Applicants' specification. While other sources may be consulted in understanding ambiguous terms, it is impermissible to defy a plain meaning provided in the specification by substituting a second, contradictory meaning derived from another source. The person skilled in the art is deemed to read a claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire specification. Phillips v. AWH Corp., 75 USPQ 2d 1321 (Fed. Cir. 2005). The Examiner is required to construe the claims in the same manner as they would be by persons of ordinary skill in the art. Id, 75 USPQ 2d at 1326, 1329.

It is undisputed that Gertzman et al. discloses a two-layer absorbent structure (Figs. 1-5). Applicants' Claim 1, by contrast, requires a single-layer absorbent structure. In rejecting Claims 1, 3, 7-8, 10-15 and 41 based on Gertzman et al., the

Examiner stated that two layers joined together constitute a single-layer absorbent structure. However, the Examiner has not pointed to a passage in Applicants' specification which supports this unique and very unusual interpretation of "single-layer absorbent structure." In fact, the specification provides no support for the Examiner's interpretation.

Contrary to the Examiner's interpretation, Applicants' specification presents a clear and inescapable distinction between single-layer and multi-layer absorbent structures:

> The absorbent structures of the invention include one or more layers that, in the absence of a liquid, may be thin and flexible enough to lie flat...in a single-layer embodiment, one surface of the structure possesses different swelling behavior in the presence of a liquid compared to the opposite surface of the structure. In a multi-layer embodiment, at least a first layer and a second layer are laminated together such that they remain attached to one another when wet...(p. 2 lines 6-20).

Thus, a two-layer absorbent structure in which both layers are joined together is unambiguously described as a multi-layer structure in Applicants' specification. A single-layer absorbent structure, as recited in Claim 1, means exactly what it says, i.e. a structure having only one layer. The terms "single-layer" and "multi-layer" are mutually exclusive, and do not overlap. The Examiner is required to honor the plain meaning provided in Applicants' specification, when searching the prior art for a single-layer absorbent structure.

Gertzman et al. plainly does not disclose a single-layer absorbent structure as required by Claims 1-3, 7-8, 10-15 and 41. Furthermore, the reference does not disclose a single-layer absorbent structure which expands to a lesser extent along a first surface than along a second surface in the presence of a liquid. Furthermore, the reference does not disclose a single-layer absorbent structure having a fluid intake rate of about 0.5 cm^3/sec or greater measured using the Fluid Intake Rate Test. Accordingly, the rejection of these claims should be withdrawn.

Claim 21 depends from Claim 17. Therefore, the rejection of Claim 21 based on Gertzman et al. is discussed along with the separate rejection of Claim 17, below.

c) Claim Rejection Based on Olsen et al.

The rejection of Claims 1, 3, 7, 10, 12-15 and 41 under 35 U.S.C. § 102(b) as anticipated by, or under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,591,150 ("Olsen et al.") is respectfully traversed.

Independent Claims 1 and 41 require a single-layer absorbent structure interpreted according to Applicants' specification (meaning an absorbent structure having only one layer). As stated by the Examiner, one absorbent structure disclosed in Olsen et al. (defined by a combination of absorbent core 22 and resilient insert 44) has more than one layer. The Examiner cites an alternative embodiment in which the resilient insert 44 serves as the absorbent core (Col. 12, lines 9-26 and Col. 18, lines 7-11). Yet the disclosed insert does not anticipate or render obvious any of Applicants' claims because the disclosed insert does not curve when wet, due to expansion of one surface relative to another.

The resilient insert disclosed in Olsen et al. may either be pre-formed as a curved insert, or it may assume a curved shape during use (Col. 3, lines 6-23). When the insert curves during use, the curvature results from the pressure and motion imparted by a wearer's body (Col. 9, lines 55-67). The Examiner attempts to equate this curvature with the curvature of Applicants' absorbent structure, which results from expansion of one surface relative to another in the presence of a liquid. In so doing, the Examiner overlooks important claim limitations. Clearly, any resilient member will flex and bend under pressure. Olsen et al. has nothing to do with Applicants' claimed invention.

The Examiner argues that the phrase "expands...in the presence of a liquid" does not create a cause-and-effect relationship. Again, the Examiner is interpreting claim language in a manner which contradicts Applicants' specification. A reasonable person of ordinary skill in the art, having read the specification, would understand perfectly well what is meant by the claim language. A first surface or layer expands in the presence of a liquid to a lesser extent than a second surface or layer, resulting in increased concavity that would not otherwise exist.

Accordingly, the rejection of these claims should be withdrawn.

d) Claim Rejection Based On Abbas et al.

The rejection of Claim 43 under 35 U.S.C. § 102(b) as anticipated by, or under 35 U.S.C. § 103(a) as obvious over WO 01/15649 ("Abbas et al.") is respectfully traversed. Again, the Examiner overlooks important claim limitations.

Claim 43 recites an absorbent structure comprising first and second layers, wherein only one of the first and second layers is elastomeric. The Examiner has not addressed this limitation, and has not cited any passage in Abbas et al. that is pertinent to this limitation. According to Abbas et al., both the liquid acquisition layer 3 and the liquid storage layer 4 of the absorbent structure comprise a compressed foam material (p. 5 lines 25-36). The two layers have similar properties, and it is not reasonable to assume that one is elastomeric while the other is not.

Abbas et al. discloses that both foam layers are compressed in the z-direction, when dry, with the liquid acquisition layer 3 being compressed to a greater extent than the liquid storage layer 4 (p. 5 lines 34-36). When the foam layers absorb liquid, they decompress and expand in the z-direction, as shown in Figs. 1 and 2 (p. 6 lines 12-17). No lateral compression or subsequent lateral expansion of either layer is disclosed. By comparing Figs. 1 and 2 of Abbas et al., it is seen that both foam layers have precisely the same lateral dimension after absorption of a liquid as they do in the dry state. Accordingly, the interface between the first and second foam layers remains a straight line. Abbas et al. does not disclose an increase in concavity along an interface between the first and second layers, as required by Claim 43.

For these reasons, the rejection of Claim 43 should be withdrawn.

e) Additional Rejection Based On Gertzman et al.

The rejection of Claim 21, and the additional rejection of Claims 9, 17-20, 22, 24-25, 28-29 and 42 under 35 U.S.C. § 103(a) as obvious over Gertzman et al. is respectfully traversed.

Ironically, the Examiner takes the position with respect to Claim 17 that Gertzman et al. discloses a two-layer absorbent structure. In the corresponding rejection of Claim 1, the Examiner took the irreconcilable position that the same structure (having two layers bonded together) is a single-layer structure. While Applicants agree that the disclosed structure has two layers, these inconsistent interpretations of the same reference

illustrate the problems that arise from failing to follow the legal procedures (explained above) governing interpretation of Applicants' claim limitations.

Claim 9 depends from Claim 1 and is patentable over Gertzman et al. for at least the same reasons, explained above.

Independent Claim 17 recites an absorbent structure comprising a first layer that expands less than 10% in the presence of a liquid and a second layer that expands at least 20% in the presence of the liquid, the second layer bonded to the first layer and having a basis weight of about 100 to about 1000 grams/m^2. Gertzman et al. plainly does not disclose this type of structure. In the absorbent structure of Gertzman et al., all layers are formed of the same polymer, which is polyvinyl acetal (Col. 4, lines 47-52).

Polyvinyl acetal is a highly water-absorptive material having the capacity to absorb up to 16 times its weight in fluids measured using a fluid retention test, ASTM D1117-80 (Col. 4, lines 16-24). Due to air space, the sponges made from polyvinyl acetate provide for a higher absorption of up to 25 times their weight. The sponges are intended to conform (through expansion) to the precise shape of an internal cavity or site required for organ protection during surgery, or to displace and move organs and tissue without damaging them (Col. 4, lines 25-28). Because the different layers have different pore sizes and densities, one may expand more than the other to cause curling. Yet both layers expand substantially more than 10%, and neither layer expands more than double the amount of the other, as would be required to read on Applicants' Claim 17.

Water has a density of 1.0 grams/cm^3, and is not compressible. Assuming the polyvinyl acetal has a density of about 1.0 grams/cm^3, the absorption of 16 times its weight in water would cause a volumetric expansion of 1600%. Minor variations in density of one polyvinyl acetal versus the other would affect the percentage expansion to a degree. However, no polyvinyl acetal polymer can absorb 16 times its weight in water while expanding less than 10%. Furthermore, while the basis weight of a layer might affect its overall expansion (as indicated by the Examiner), it should not influence the percent expansion.

Put another way, the disclosed absorbent polyvinyl acetal sponge may absorb up to 25 times its weight in water. Much of the absorption (16 times the sponge weight) results from absorptive properties of the polymer and causes a proportional expansion. The remainder of the sponge absorption is due to filling of air space within the

sponge. The sponge must expand by an amount which reflects the absorption by the polymer.

Fig. 1 of Gertzman et al. illustrates the sponge material in the dry state. Fig. 2 illustrates the same material in the wet, expanded state. Comparison of Figs. 1 and 2 suggests that both layers expand substantially more than 10%, in at least the z-direction, with additional expansion occurring in the x and y directions. Apparently, neither layer expands more than double the amount of the other. Accordingly, Claim 17 is patentable. Claims 18-20, 22, 24-25 and 28-29 depend from Claim 17, and are patentable for at least the same reasons.

Independent Claim 42 also recites an absorbent structure comprising a first layer that expands less than 10% and a second layer that expands at least 20% in the presence of a liquid. Claim 42 is patentable for at least the same reasons as Claim 17. The claim rejection based on Gertzman et al. should be withdrawn.

f) Additional Claim Rejection Based On Olsen et al.

The rejection of Claims 9, 17-20, 22, 24-36, 38-40 and 42 under 35 U.S.C. §103(a) as obvious over Olsen et al. is respectfully traversed.

Claim 9 depends from Claim 1 and is patentable over Olsen et al. for at least the same reasons, explained above.

Independent Claim 17 recites an absorbent structure including a first layer that expands less than 10% in the presence of a liquid and a second layer that expands at least 20% in the presence of the liquid, so that the second layer increases concavity along an interface between the first and second layers. Olsen et al. does not disclose these limitations. As explained above, the described concavity of the resilient member in Olsen et al. either a) occurs during manufacture of the resilient member, or b) results from flexing and bending the resilient member during use of the absorbent article. This has nothing to do with concavity along an interface that would result from expanding the second layer relative to the first layer in the presence of a liquid.

In the embodiments relied upon by the Examiner (Fig. 4 of Olsen et al.), the insert 44 is separated from absorbent core 42 at all locations depicting a concave surface, and there is no interface at these locations. Furthermore, it does not appear that one layer has expanded less than 10% while another layer has expanded at least 20% (more than

double the amount of the first layer). Accordingly, Claim 17 is patentable over Olsen et al. Claims 18-20, 22 and 24-29 depend from Claim 17 and are patentable for at least the same reasons.

Independent Claim 30 is directed to an absorbent article including a bodyside liner, an outer cover and an absorbent structure between them. The absorbent structure includes a first surface, and a second opposing surface bonded to the outer cover. The absorbent structure expands along the second surface in the presence of a liquid so that the first surface increases concavity.

As explained above, Olsen et al. does not disclose an absorbent structure where surfaces expand differently in the presence of a liquid. Furthermore, in the embodiment relied on by the Examiner (Fig. 4 of Olsen et al.), the first surface (element 42) is longer than the second surface (element 44) and the first surface is convex, not concave. The second surface faces the outer cover, and the structure cannot be inverted to reverse the geometry. Claim 30 is therefore patentable over Olsen et al. Claims 31-37 and 39-40 depend from Claim 30, and are patentable for at least the same reasons.

Independent Claim 42 recites an absorbent structure comprising a first layer that expands less than 10%, and a second layer that expands at least 20% in the presence of a liquid. Claim 42 is patentable over Olsen et al. for the same reasons as Claim 17, explained above.

While failing to identify various claim limitations in the prior art, the Examiner has categorically declared that all such limitations are merely result-effective variables. However, Olsen et al. does not rely on expansion at all to cause curvature in an absorbent structure. As explained above, Olsen et al. achieves curvature by a) providing an insert that is already curved, or b) providing a flat insert that curves due to pressure and motion imparted by a wearer's body. Neither technique has anything to do with Applicants' absorbent structure which achieves curvature in the presence of a liquid by providing for predetermined, different expansions in different layers or structures of the absorbent structure.

In summary, no claim is obvious over Olsen et al. This rejection should be withdrawn.

g) Conclusion

Applicants believe that the claims, as presented, are in condition for allowance. If the Examiner detects any unresolved issues, then Applicants' attorney repeats the previous request for a telephone call from the Examiner, and a telephone interview.

Respectfully submitted,

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